

HP Renew

**HP equipment
management & remarketing**



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André de Wolf
Pre-Sales Support Consultant
EMR Alpha Competence Center
Andre.dewolf@hp.com

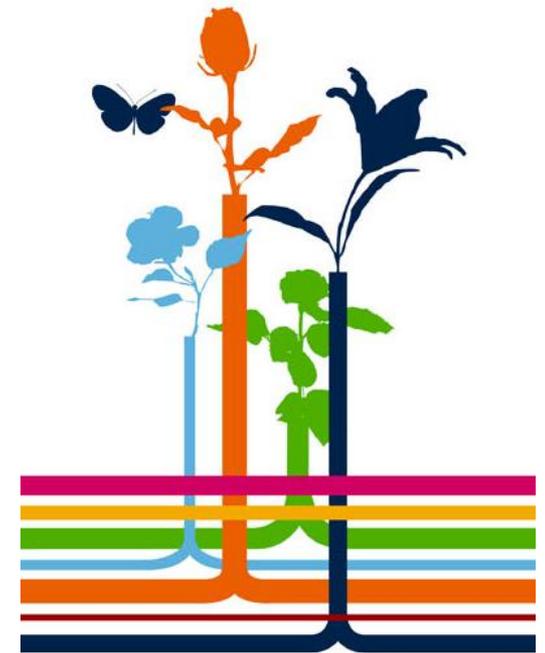
HP Renew – as good as new!

HP Renew offers a comprehensive portfolio of remanufactured **original HP products** on a global basis at attractive and competitive prices. HP Renew products have undergone a rigorous remanufacturing process and are offered with the **same HP warranty and HP Services as new HP products**. Up to 80% of all HP Renew products are **less than one year old**.

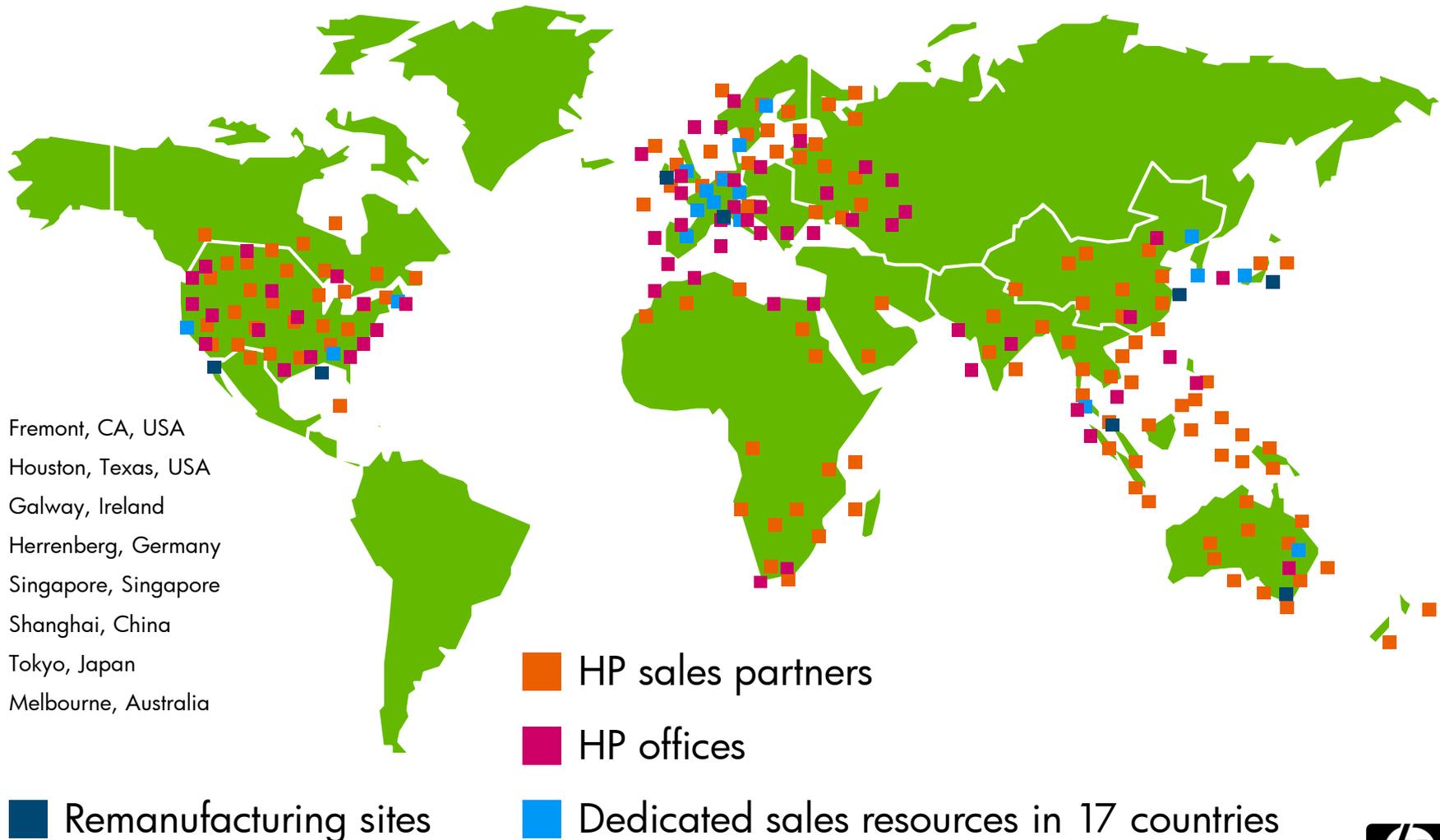


HP Renew worldwide

- Business established in 1981
- Dedicated HP resources in 17 countries
- 10 HP remanufacturing sites
- \$ 530 M revenue worldwide
- Up to 5 generations of technology



HP Renew – a global program with local representation



HP Renew – product portfolio



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HP Renew – product portfolio/EMEA



HP Renew – HP's single source for extended life products

Single source of authorized software licensing



Product revision to latest serviceable level (firmware)



Bridging solutions ensuring smooth technology transition



Entire range of AlphaServers



AlphaServers including options and upgrades



HP Renew country contacts

Name	E-mail	Phone
Austria: Erich Wurzinger	erich.wurzinger@hp.com	+43 181 118 63 08
Belgium, Luxemburg Netherlands: Harry Maarse	harry.maarse@hp.com	+31 302 222 3 99
Finland and Baltics: Panu Greis	panu.greis@hp.com	+35 820 535 41 01
France: Claudine Cazillac	claudine.cazillac@hp.com	+33 157 627 7 04
Germany: Georg Hermann	georg.hermann@hp.com	+49 703 114 27 10
Italy: Stefano Driussi	stefano.driussi@hp.com	+39 065 081 59 05
Sweden, Norway and Denmark: Mathias Wesslen	mathias.wesslen@hp.com	+46 852 49 46 81
Switzerland: Martin Steiger	martin.steiger@hp.com	+41 794 169 0 32
Spain and Portugal: Ana Belén Mostaza	ana-belen.mostaza@hp.com	+34 686 54 25 33
UK&Ireland: Clare Griffith	clare.griffith@hp.com	+44 134 436 15 23
Adrian Tisi	adrian.tisi@hp.com	+44 774 747 26 20
ISE Elias Tomaras	elias.tomaras@hp.com	+30 210 809 1 15



hp
OpenVMS
164
Operating
Environments



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hp OpenVMS I64 Operating Environments

Operating Environment Packaging

- Introduce OpenVMS packaging consistent with HP-UX OEs
- Provides a 3 tier pricing paradigm (good, better, best)

OpenVMS I64 Operating Environments:

• Foundation OE (FOE) Base

- An **internet ready**, feature rich feature set for **price sensitive** customer

• Enterprise OE (EOE)

- A **higher cost** feature set that enhances the customer experience in areas of **manageability, single system availability and performance**

• Mission Critical OE (MCOE)

- Has the **highest cost**, but delivers the ultimate customer experience in terms of **multi-system availability and workload management**

HP OpenVMS Operating Environments for Integrity Servers

OpenVMS I64 Mission Critical Operating Environment (MCOE)

OpenVMS I64 Enterprise Operating Environment (EOE)

OpenVMS I64 Foundation Operating Environment (FOE)

- OpenVMS Operating System
 - **OpenVMS Unlimited User Licensing**
 - TCP/IP Services for OpenVMS
 - DECnet-Plus for OpenVMS End System
 - DECwindows Motif for OpenVMS
 - DECnet IV
 - Performance Data Collector
 - OpenVMS Web Agents
 - OpenVMS WEBM/CIM
- Integration Technologies
- Secure Web Server (SWS)
 - Secure Web Browser (SWB)
 - SDK for the Java™ Platform
 - XML Technology
 - NetBeans
 - Simple Object Access Protocol (SOAP) Toolkit
 - Kerberos
 - Enterprise Directory
 - CDSA
 - SSL
 - OpenSource Tools

Add to Foundation:

- RMSjournaling
- VolumeShadowing
- DECram
- OpenVMS Management Station
- Availability Manager
- OpenView Performance Agent

Add to Enterprise:

- OpenVMS Clusters
- OpenVMS RTR Backend



One DVD media for all 3 OE's

Easier to order
Easier license management

Straight forward installation of OE's from a single DVD

Simpler support contracts

→ higher customer satisfaction

New Way of Licensing on Integrity Servers



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Software Licensing Overview

Per-Core licensing (PCL)

- Very **flexible** licensing design
- Purchase software based on the **# of physical core's** in a partition (or HP Integrity Virtual Machine) or system

Benefits of PCL

- **More granular** – customer pays for exactly what they need
- **More flexible** – licensing is not per box, but per-core so customer can move assets as needed
- **Accommodates partitioning** – allows use of different types of OEs in different hardware partitions and different Operating Systems
- **Expandable** – customers can purchase processors and software to meet needs over time

Software Licensing Overview

Operating Environment Per-Processor Core Licenses (PCL)

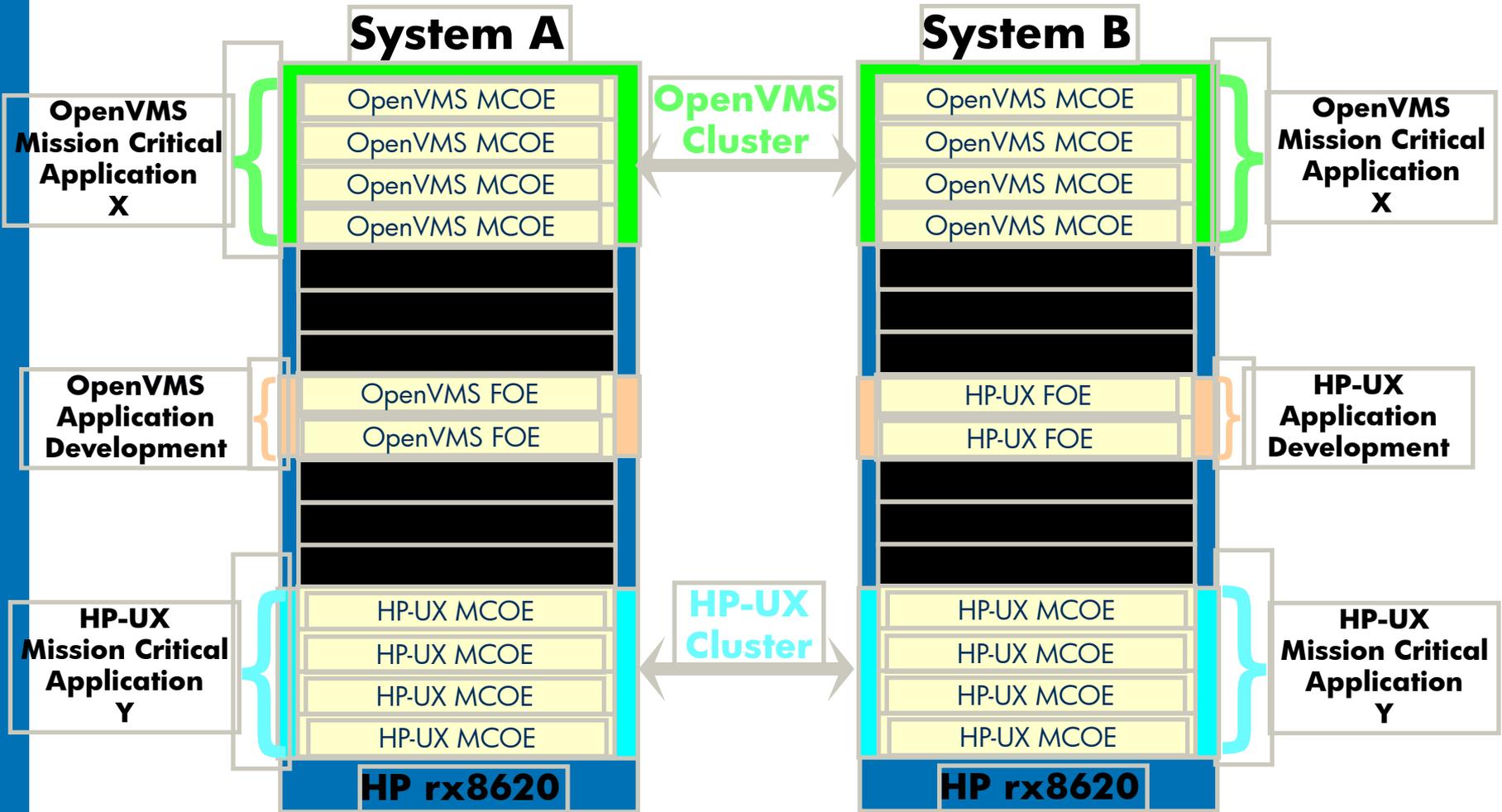
- OpenVMS operating system and specified layered product software are offered, pre-packaged, in Operating Environment bundles (OEs)
- An OE Per-Processor Core License (PCL) is required for each active processor on the server or hard partition. HP offers 3 OEs, each with a single license, which provide increasing functionality. The level of OE purchased can be aligned to the customer's needs and environment. All OpenVMS V8.3 OE licenses are Per-Processor Core Licenses.

Software Licensing Overview

Layered products are offered with one of the following license types.

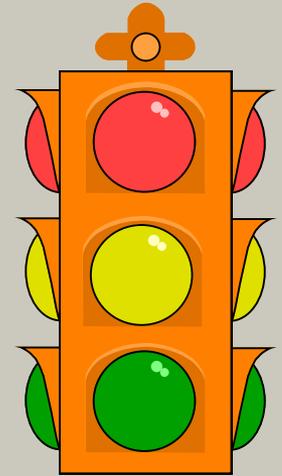
- Per-Processor Core License (PCL):
 - One PCL is required for each active processor core on the server or hard partition.
 - The license deliverable is an exact quantity LMF PAK (Product Authorization Key). Most layered products will be licensed with PCL.
- Concurrent Use License (CU):
 - One CU license is required for each use/user that will be accessing the product across the cluster, at one time.
 - The license deliverable is an exact quantity LMF PAK.
 - Compilers, such as C, C++ and FORTRAN will be licensed with CU.
 - Integrity compiler CU licenses can be used across Integrity and Alpha servers within an OpenVMS cluster.

Operating Environment/PCL Business Practice Example



SOFT COMPLIANCE

- PCL is based on licensing Core's
- 1 unit per running Core on node
- 3 states



- Red - PAK is not loaded
product cannot run (failure status returned)
- Yellow - short 1 or more units as compared to # of CPUs
product can run (success status returned, PPL tool will flag)
- Green - units equal or greater than # of CPUs
product can run (success status returned)

License Tiers

- On Integrity Servers there are 4 license Tiers for the Operating Environment:
 - 'C' class for Integrity Blades
 - Up to 2 socket Integrity Servers
 - Up to 4 socket Integrity Servers
 - Unlimited Socket Integrity Servers
- Layered Products are all licensed on a Per Core Basis
- There is a special 'Blades' low-end 'C' class PCL Cluster license
- All Compilers are licensed on a concurrent user basis

Software License Trade- in & Transfer Policy

to Integrity and HP
9000 Servers



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License Trade-in and Transfer Policy

This unified software license trade-in and transfer policy promotes customer transition to Integrity and HP 9000 servers.

- **License Trade- in and Transfer Policy**
- **Cross Platform Trade-in**
- **Trade-in Methodology**
- **Resource Information and Sites**

Terminology and Definitions

Terminology and definitions used within SW Trade-ins:

- **Processor:** The component that plugs into a processor socket – it may contain more than one processor core.
- **Core:** The actual data-processing core within a processor – there may be multiple cores within a single processor
- **OE:** Operating Environment
- **PCL:** Per Processor Core License, formerly PPL or Per Processor License

Terminology and Definitions

Terminology and definitions used within SW Trade-ins:

- **Cross platform software license trade-in:**
When a software license is traded-in for a new software license or software licenses on a different hardware and/or operating system platform. When traded-in, the original software license is terminated and a new software license is granted under HP's standard end user software license terms, current at the time of new license purchase.
- **Original System:**
The system that is being traded in, or the system that the software license is being traded or transferred from.
- **Target System:**
The system or systems the customer is purchasing to replace the Original System or the system the software license is being traded or transferred to.
- **Server Rollover:**
When one or more servers are traded-in for an equal number of servers of similar size to the ones being traded-in.
- **Server Consolidation:**
When multiple servers are traded-in for a smaller quantity of new servers.

License Trade-in and Transfer Policy

Terms of the Policy:

- Existing software business practices are retained for license trade-in and transfers **WITHIN VAX and Alpha platforms** (Alpha to Alpha, VAX to VAX, and VAX to Alpha)
- Existing software business practices are retained for license trade-in and transfers **WITHIN HP 9000 and WITHIN Integrity servers** (HP 9000 to HP 9000 and Integrity server to Integrity server)
- A single cross platform license trade-in policy has been introduced for customers migrating to Integrity or HP 9000 servers. Cross platform trade-ins include:

- From: HP-UX HP 9000 To: HP-UX on Integrity server OR OpenVMS I64
- From: Tru64 UNIX Alpha To: HP-UX HP 9000 OR HP-UX on Integrity server OR OpenVMS I64
- From: OpenVMS VAX or Alpha To: OpenVMS I64 OR HP-UX HP 9000 OR HP-UX on Integrity server
- From: MPE/iX e3000 To: HP-UX HP 9000 OR HP-UX on Integrity server OR OpenVMS I64

Software Cross Platform Trade-in Policy

From: HP-UX HP 9000
From: Tru64 UNIX Alpha
From: OpenVMS VAX or Alpha
From: MPE/iX e3000

To: HP-UX Integrity or OpenVMS I64
To: HP-UX HP 9000, HP-UX Integrity or OpenVMS I64
To: OpenVMS I64, HP-UX HP 9000 or HP-UX Integrity
To: HP-UX HP 9000, HP-UX Integrity or OpenVMS I64

Support Customer

- Licenses on support** can be traded-in at **100% * credit off the price of the equivalent new license(s)**
- Commitment to continue support** on new licenses for one (1) year

Non-Support Customer

- Licenses not on support** can be traded-in at **60% * credit off the price of the equivalent new license(s)**
- Commitment to support** for new licenses for one (1) year, pre-paid

* At HP's discretion, license trade-ins may be offered for Third-party or royalty bearing software products. Where available, these trade-ins may be offered at trade-in credit rates that are different from those offered for HP software product license trade-ins, as stated in these slides.

- Trade-in applies to 'equivalent product' or operating environment licenses
- Parallel usage of licenses on both platforms is allowed during transition, consistent with the parallel usage for the hardware

License Trade-in Methodology

Trade-in applies to 'equivalent product' or operating environment licenses

For each licensed processor core on the Original server, get credit for the equivalent product or operating environment license on the Target (new) server, up to number of processor cores purchased

New licenses are added to the order and a credit is applied against the license price

Because the license types and license packaging on the Original server and Target server may not be the same, Trade-in Logic and Equivalent Product Maps will define how licenses are transferred and valid trade-in paths

As an example of license type differences, the majority of products on Integrity servers are licensed with Per Processor Core Licenses (PCL), or 1 license per processor core. In many cases the license being trade-in will be capacity (tier) based or user based.

Parallel Usage of Software Licenses

During a system trade-in, the parallel usage period is the time HP allows a customer to use both the Original System and the Target System, concurrently, while migrating the computing environment.

- When trading-in to a new hardware platform, parallel usage of software licenses is permitted for the same duration as the hardware parallel usage. The following conditions apply.
- The standard parallel usage duration for hardware and software is 90 days, but may be extended to meet customer need and requirements.
- An agreement stating the parallel usage duration must be agreed to and signed between HP and the customer at the beginning of the parallel usage period.
- Software licenses for the Original System are terminated and must be returned to HP at the end of the parallel usage period.
- Services, where applicable, should be maintained on both systems during the parallel usage period.

Example: OpenVMS/Alpha to OpenVMS I64 Operating Environment Equivalency Map

Trade-in Original Licenses → Credit for Equivalent OE License

OpenVMS Alpha Product License	OpenVMS I64 Operating Environment License	
OpenVMS Base	Foundation Operating Environment (FOE)	Example 1: Trade-in Base, 3 SMPs, Users and EIP from a four processor core server and receive credit for 4 FOE PCL licenses on the Target server
OpenVMS SMP		
OpenVMS Users		
Enterprise Integration Package		
Volume Shadowing	Enterprise Operating Environment (EOE)	Example 2: Trade-in all of the above plus 2 of the 3 EOE products and receive credit for 4 EOE PCL licenses
RMS Journaling		
DECram		
VMSClusters	Mission Critical Environment (MCOE)	Example 3: Trade-in all of the above plus VMSClusters and receive credit for 4 MCOE PCL licenses

All license trade-ins require Proof of License for license being traded-in

Credit Options for OpenVMS

Product #	Option #	Credit Option Description for Operating Environments
xxxxxx		OpenVMS or HP-UX Operating Environment product purchase
xxxxxxN	#109	LTU trade-in from OpenVMS with support
xxxxxxN	#113	LTU trade-in from OpenVMS without support
Product #	Option #	Credit Option Description for Layered Products
yyyyyy		OpenVMS or HP-UX layered product purchase
yyyyyyN	#115	LTU trade-in from with support
yyyyyyN	#116	LTU trade-in from without support

Credits for Original System Software

Because all licenses being traded in are on support, the customer receives 100% credit for four (4) Enterprise OE licenses (EOE).

- Order four (4) OpenVMS Enterprise 4-core OE's (EOE)
- Order four (4) OpenVMS Enterprise 4-core OE (EOE) 'with Support' credit options
- Order Support for four (4) OpenVMS Enterprise 4-core OE's (EOE) (not reflected in Table 3)

In Support Trade-in Example – Ordering with Credit Options

(This example reflects a trade-in for OpenVMS I64.)

Product	Option	Description	Qty	PCLUnit Price	Total Price
BA397AC		OpenVMS Enterprise OE PCL 4-core	4	\$6,160.	\$24,640
BA397ACN	#109	OpenVMS Enterprise OE PCL 4-core LTU trade-in from OpenVMS WITH support	4	-\$6,160	-\$24,640
		Total List Price			\$0

Example: Layered Product Equivalency Map

FROM Platforms:

TO Platforms:

OpenVMS VAX	OpenVMS Alpha	Tru64 UNIX Alpha	MPE/iX e3000	HP-UX HP 9000	OpenVMS I64	HP-UX
VAXcluster	VMSccluster	TruCluster SVR	HA Cluster/iX	MC/Service guard	VMSccluster I64	MC/Serviceguard
Fortran VV	Fortran VA	Fortran UA	Fortran iX	HP Fortran	HP Fortran I64	HP Fortran
C++ VV	C++ VA	C++ UA	C iX	HP aC++	HP C++ I64	HP aC++

Example: Trade-in VMSccluster from OpenVMS Alpha and receive credit for VMSccluster on OpenVMS Integrity

Example: Trade-in Fortran from Tru64 UNIX Alpha and receive credit for Fortran on HP-UX Integrity

Example: Trade-in C iX from MPE/iX e3000 and receive credit for HP aC++ on HP-UX Integrity

All license trade-ins require Proof of License for license being traded-in

License Trade-in Logic

A: License Type offered on the TARGET Server	B: What you need to know about the ORIGINAL Server and Licenses	C: Credit Application
Per Processor Core License (PCL)	Number of active processor cores licensed on the Original server.	Receive credit for PCL licenses equal to the number of processor cores identified in column B.
User License	Total number of User licenses being traded-in or total number of users on the Original server.	Receive credit for User licenses, equal to the number of users identified in column B.
Flat Priced License (HP-UX only)	No additional information required.	Receive credit for Flat Priced License
Tiered License (HP-UX only)	Total processor core capacity of the Original System. For server consolidation, total the Core capacity for all Original Systems. Core capacity is the maximum number of Cores supported by the system design.	Receive credit for Tiered licenses, matching the number of Cores identified in column B: 1-4 Cores – credit for Tier 1 license 5-8 Cores – credit for Tier 2 license 9 or > Cores – credit for Tier 3 license

Partial Credit for License Trade-in to EOE or MCOE

Only for OpenVMS a set partial trade-in policy has been set-up:

When trading in OpenVMS Alpha and VAX operating system licenses for OpenVMS I64 Operating Environment (OE) licenses, the customer may purchase EOE or MCOE even though they do not qualify for the full license trade-in credit. They may receive credit for FOE PLUS individual product licenses, based on the licenses traded-in. There are no partial credits for license trade-ins to FOE.

If a customer has a partial trade-in for any other Operating Environment then this will be looked at on a case by case basis.

Examples



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Product to Operating Environment License Map

Example is for trade-ins from OpenVMS Alpha to OpenVMS I64

Trade-in OpenVMS Alpha Licenses	License Part	Trade-in Rules	For: VMS I64	Description
OpenVMS Base	QL-MT1A*-6*	1. At minimum, Base and SMPs must be traded in to receive credit for FOE	FOE PCL with sys on order	BA819AC HP VMS I64 FOE PCL LTU Tier C with system Select matching credit option for In-Support or Out of Support
OpenVMS SMP Extension	QL-MT1A9-6*			BA819ACN#109 LTU tradein from OpenVMS with support
OpenVMS Users	QL-MT3A*.**	BA819ACN#113 LTU tradein from OpenVMS without support		
OpenVMS Unlimited Use	QL-MT2A*.**	BA453AC HP VMS I64 FOE PCL LTU 2 Core with system Select matching credit option for In-Support or Out of Support		
Enterprise Integration Package	QP-5LVAA*-AA	3. Trade-in all User, Unlimited Use, and Enterprise Integration Package licenses associated with traded Base license(s) and server		BA453ACN#109 LTU tradein from OpenVMS with support
or	QB-63PA*-AA			BA453ACN#113 LTU tradein from OpenVMS without support
				BA325AC HP VMS I64 FOE PCL LTU 4 Core with system Select matching credit option for In-Support or Out of Support
				BA325ACN#109 LTU tradein from OpenVMS with support
				BA325ACN#113 LTU tradein from OpenVMS without support
				BA329AC HP VMS I64 FOE PCL LTU >4 Core with system Select matching credit option for In-Support or Out of Support
			BA329ACN#109 LTU tradein from OpenVMS with support	
			BA329ACN#113 LTU tradein from OpenVMS without support	
			BA818AC HP VMS I64 FOE PCL LTU Tier C w/o system Select matching credit option for In-Support or Out of Support	
			BA818ACN#109 LTU tradein from OpenVMS with support	
			BA818ACN#113 LTU tradein from OpenVMS without support	
			BA452AC HP VMS I64 FOE PCL LTU 2 Core w/o system Select matching credit option for In-Support or Out of Support	
			BA452ACN#109 LTU tradein from OpenVMS with support	
			BA452ACN#113 LTU tradein from OpenVMS without support	
			BA338AC HP VMS I64 FOE PCL LTU 4 Core w/o system Select matching credit option for In-Support or Out of Support	
			BA338ACN#109 LTU tradein from OpenVMS with support	
			BA338ACN#113 LTU tradein from OpenVMS without support	
			BA326AC HP VMS I64 FOE PCL LTU >4 Core w/o system Select matching credit option for In-Support or Out of Support	
			BA326ACN#109 LTU tradein from OpenVMS with support	
			BA326ACN#113 LTU tradein from OpenVMS without support	

Product to Operating Environment License Map

Example is for trade-ins from OpenVMS Alpha to OpenVMS I64

Trade-in OpenVMS Alpha Licenses	License Part	Trade-in Rules	For: VMS I64	Description
Volume Shadowing	QL-2A1A*-AA	1. To qualify for EOE you must be licensed for a minimum of 2 of the 3 products listed in B.	EOE PCL with sys on order	BA817AC HP VMS I64 EOE PCL LTU Tier C with system Select matching credit option for In-Support or Out of Support
RMS Journaling	QL-0VHA*-AA			BA817ACN#109 LTU tradein from OpenVMS with support
DECram	QL-MV3A*-AA	2. Trade-in all applicable product licenses from Section A PLUS at least two from Section B to receive credit for EOE. If you are licensed for all 3 products in B, licenses for all three products must be traded in, along with all licenses for products in A.		BA817ACN#113 LTU tradein from OpenVMS without support
				BA451AC HP VMS I64 EOE PCL LTU 2 Core with system Select matching credit option for In-Support or Out of Support
				BA451ACN#109 LTU tradein from OpenVMS with support
				BA451ACN#113 LTU tradein from OpenVMS without support
				BA397AC HP VMS I64 EOE PCL LTU 4 Core with system Select matching credit option for In-Support or Out of Support
				BA397ACN#109 LTU tradein from OpenVMS with support
				BA397ACN#113 LTU tradein from OpenVMS without support
				BA327AC HP VMS I64 EOE PCL LTU >4 Core with system Select matching credit option for In-Support or Out of Support
				BA327ACN#109 LTU tradein from OpenVMS with support
				BA327ACN#113 LTU tradein from OpenVMS without support
			EOE PCL with out sys on order	BA816AC HP VMS I64 EOE PCL LTU Tier C w/o system Select matching credit option for In-Support or Out of Support
				BA816ACN#109 LTU tradein from OpenVMS with support
				BA816ACN#113 LTU tradein from OpenVMS without support
				BA450AC HP VMS I64 EOE PCL LTU 2 Core w/o system Select matching credit option for In-Support or Out of Support
				BA450ACN#109 LTU tradein from OpenVMS with support
				BA450ACN#113 LTU tradein from OpenVMS without support
				BA398AC HP VMS I64 EOE PCL LTU 4 Core without system Select matching credit option for In-Support or Out of Support
				BA398ACN#109 LTU tradein from OpenVMS with support
				BA398ACN#113 LTU tradein from OpenVMS without support
				BA330AC HP VMS I64 EOE PCL LTU >4 Core without sys Select matching credit option for In-Support or Out of Support
				BA330ACN#109 LTU tradein from OpenVMS with support
				BA330ACN#113 LTU tradein from OpenVMS without support

Product to Operating Environment License Map

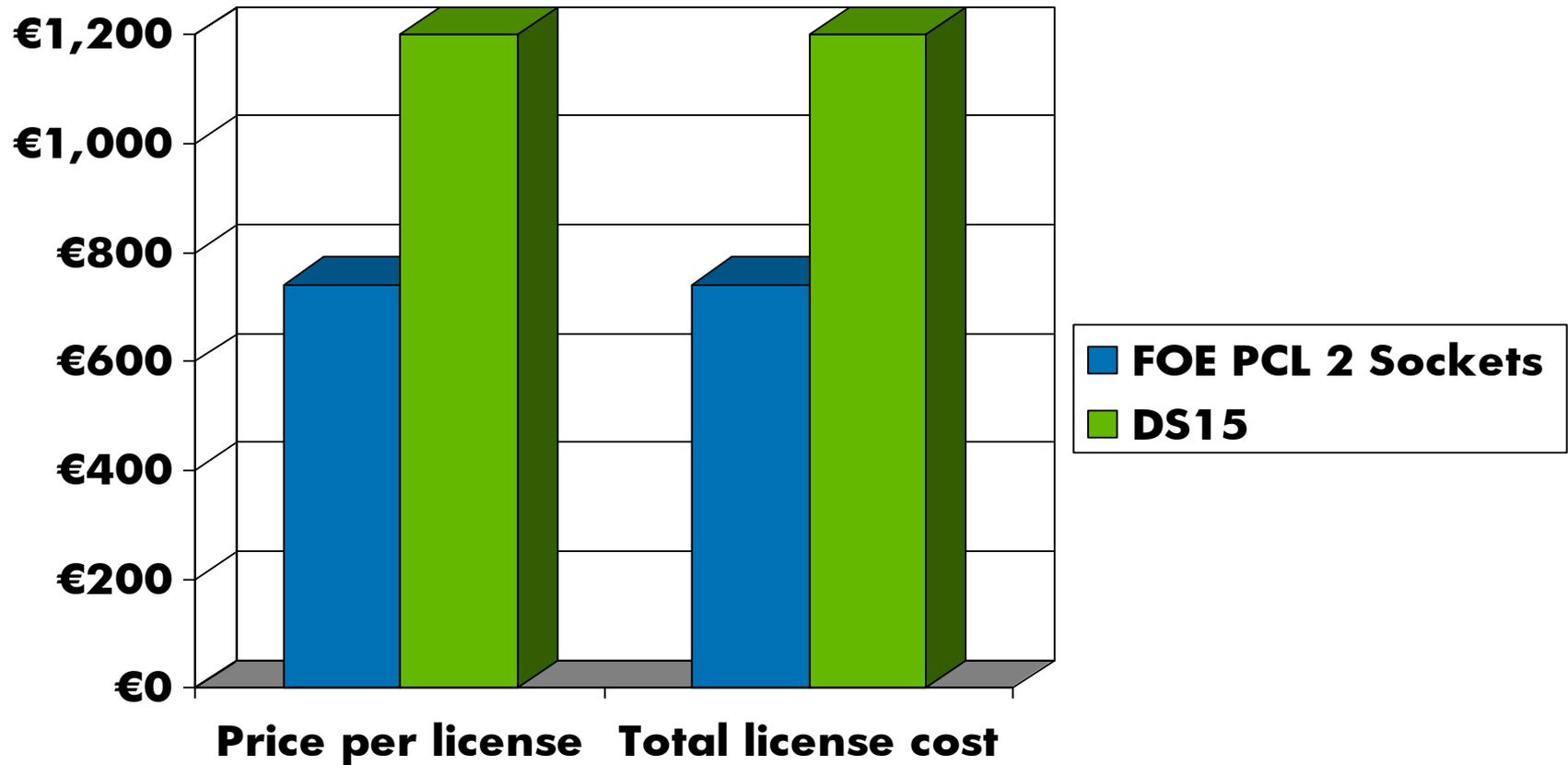
Example is for trade-ins from OpenVMS Alpha to OpenVMS I64

Trade-in OpenVMS Alpha Licenses	License Part	Trade-in Rules	For: VMS I64	Description
VMSCluster	QL-MUZA*-AA	1. To qualify for MCOE you must be licensed for a minimum of 2 products in B, plus VMS 2. Trade-in all applicable product licenses from Section A PLUS at least two from Section B, PLUS VMSClusters to receive credit for MCOE. Licenses for all licensed products in A, B and C must be traded in for MCOE.	MCOE with sys on order	BA821AC HP VMS I64 MCOE PCL LTU Tier C with system Select matching credit option for In-Support or Out of Support
				BA821ACN#109 LTU tradein from OpenVMS with support
				BA821ACN#113 LTU tradein from OpenVMS without support
				BA455AC HP VMS I64 MCOE PCL LTU 2 Core with system Select matching credit option for In-Support or Out of Support
				BA455ACN#109 LTU tradein from OpenVMS with support
				BA455ACN#113 LTU tradein from OpenVMS without support
				BA399AC HP VMS I64 MCOE PCL LTU 4 Core with system Select matching credit option for In-Support or Out of Support
				BA399ACN#109 LTU tradein from OpenVMS with support
				BA399ACN#113 LTU tradein from OpenVMS without support
				BA328AC HP VMS I64 MCOE PCL LTU >4 Core with system Select matching credit option for In-Support or Out of Support
			BA328ACN#109 LTU tradein from OpenVMS with support	
			BA328ACN#113 LTU tradein from OpenVMS without support	
			BA820AC HP VMS I64 MCOE PCL LTU Tier C w/o system Select matching credit option for In-Support or Out of Support	
			BA820ACN#109 LTU tradein from OpenVMS with support	
			BA820ACN#113 LTU tradein from OpenVMS without support	
			BA454AC HP VMS I64 MCOE PCL LTU 2 Core w/o system Select matching credit option for In-Support or Out of Support	
			BA454ACN#109 LTU tradein from OpenVMS with support	
			BA454ACN#113 LTU tradein from OpenVMS without support	
			BA400AC HP VMS I64 MCOE PCL LTU 4 Core w/o system Select matching credit option for In-Support or Out of Support	
			BA400ACN#109 LTU tradein from OpenVMS with support	
		BA400ACN#113 LTU tradein from OpenVMS without support		
		BA331AC HP VMS I64 MCOE PCL LTU >4 Core w/o system Select matching credit option for In-Support or Out of Support		
		BA331ACN#109 LTU tradein from OpenVMS with support		
		BA331ACN#113 LTU tradein from OpenVMS without support		

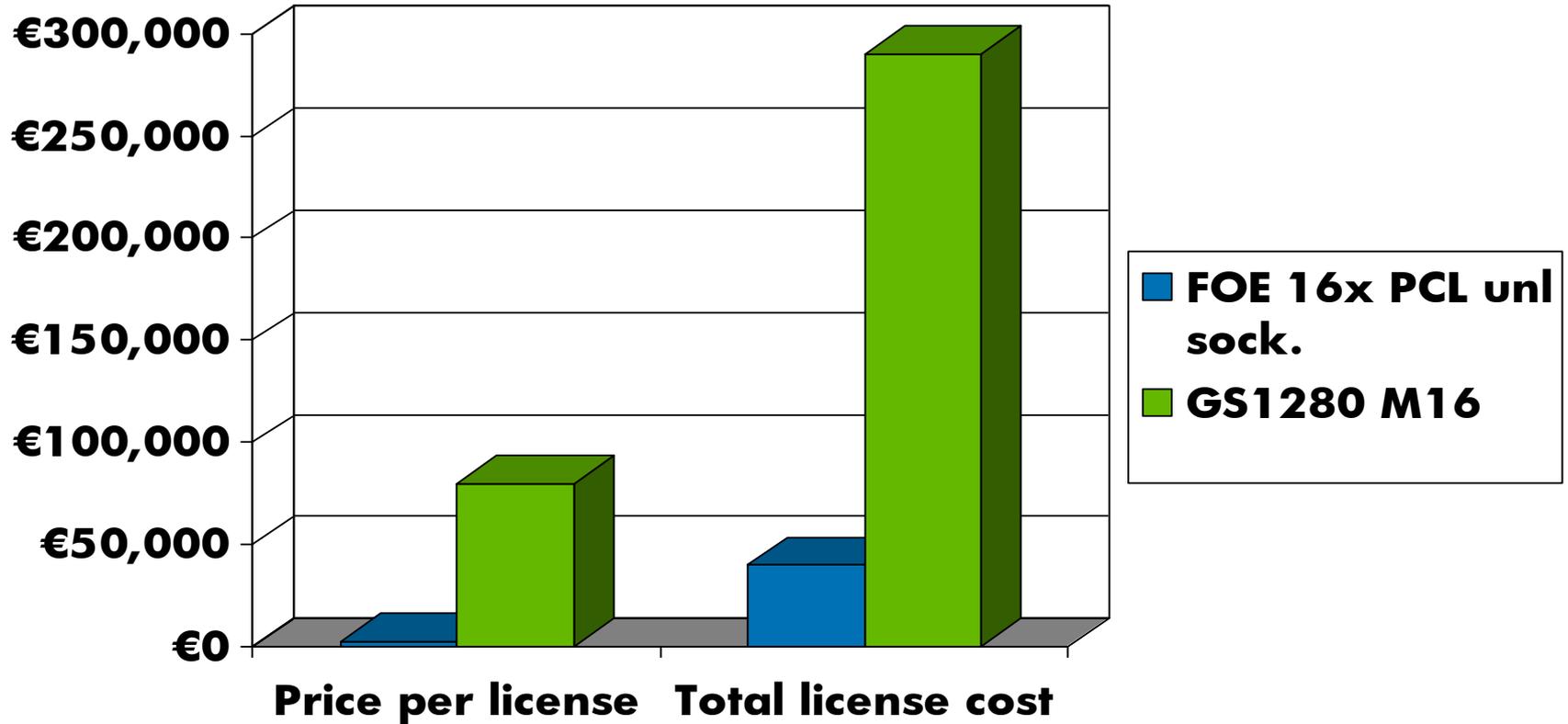
Example: Layered Product Equivalency Map

Trade-in OpenVMS Alpha Layered Product Licenses	License Part	For equivalent OpenVMS Integrity Product	Lic. Type	Order Product Numbers	Description
ACMS Development	QL-2PZA*-AA	HP ACMS Development PCL LTU VMS 164 TP Desktop Connector for ACMS now bundled with HP ACMS Development. TP Desktop Connector license may not be traded in separately for HP ACMS Development.	PCL	BA339AC	HP ACMS Devel PCL LTU VMS I64
				Select credit option for either In-Support or Out of Support	
				BA339ACN#115	HP ACMS Devel LTU tradein with support
				BA339ACN#116	HP ACMS Devel LTU tradein w/o support
ACMS Remote	QL-2Q0A*-AA QL-Y30AA-3*	HP ACMS Remote PCL LTU VMS I64	PCL	BA340AC	HP ACMS Remote PCL LTU VMS I64
				Select credit option for either In-Support or Out of Support	
				BA340ACN#115	HP ACMS Remote LTU tradein with support
				BA340ACN#116	HP ACMS Remote LTU tradein w/o support
ACMS Run-Time	QL-2Q1A*-AA QL-076AA-3*	HP ACMS Run-Time PCL LTU VMS I64	PCL	BA341AC	HP ACMS RunTime PCL LTU VMS I64
				Select credit option for either In-Support or Out of Support	
				BA341ACN#115	HP ACMS RT LTU tradein with support
				BA341ACN#116	HP ACMS RT LTU tradein w/o support
Archive Backup System Client or SLS Manager Remote	QL-5W1A*-AA QL-0YQA*-AA	HP Archive Backup Client PCL LTU VMS I64	PCL	BA343AC	HP Archive Bkup Cli PCL LTU VMS I64
				Select credit option for either In-Support or Out of Support	
				BA343ACN#115	HP Archive Bkup Cli tradein with support
				BA343ACN#116	HP Archive Bkup Cli tradein w/o support
Archive Backup System Server or SLS Library Manager	QL-5W2A*-AA QL-0YPA*-AA	HP Archive Backup Server PCL LTU VMS I64	PCL	BA342AC	HP Archive Bkup Svr PCL LTU VMS I64
				Select credit option for either In-Support or Out of Support	
				BA342ACN#115	HP Archive Bkup Svr tradein with support
				BA342ACN#116	HP Archive Bkup Svr tradein w/o support
BASEstar Open Server Development or BASEstar Open Server Runtime	QL-0X9A*-AA QL-0X9AA-3* QL-0X8A*-AA	HP BASEstar Open VMS I64 PCL LTU	PCL	BA345AC	HP BASEstar Open VMS I64 PCL LTU
				Select credit option for either In-Support or Out of Support	
				BA345AN#115	HP Bstar Open tradein with support
				BA345AN#116	HP Bstar Open tradein w/o support
BASIC	QL-0Y7A*-AA QL-095AA-3* QL-095AA-2*	HP BASIC Concurrent LTU VMS I64	User	BA347AC	HP BASIC concurrent LTU VMS I64
				Select credit option for either In-Support or Out of Support	
				BA347ACN#115	HP BASIC tradein with support
				BA347ACN#116	HP BASIC tradein w/o support
C	QL-MU7A*-AA QL-015AA-3* QL-015AA-2*	HP C Concurrent Use LTU VMS I64	User	BA348AC	HP C concurrent use LTU VMS I64
				Select credit option for either In-Support or Out of Support	
				BA348ACN#115	HP C tradein with support
				BA348ACN#116	HP C tradein w/o support

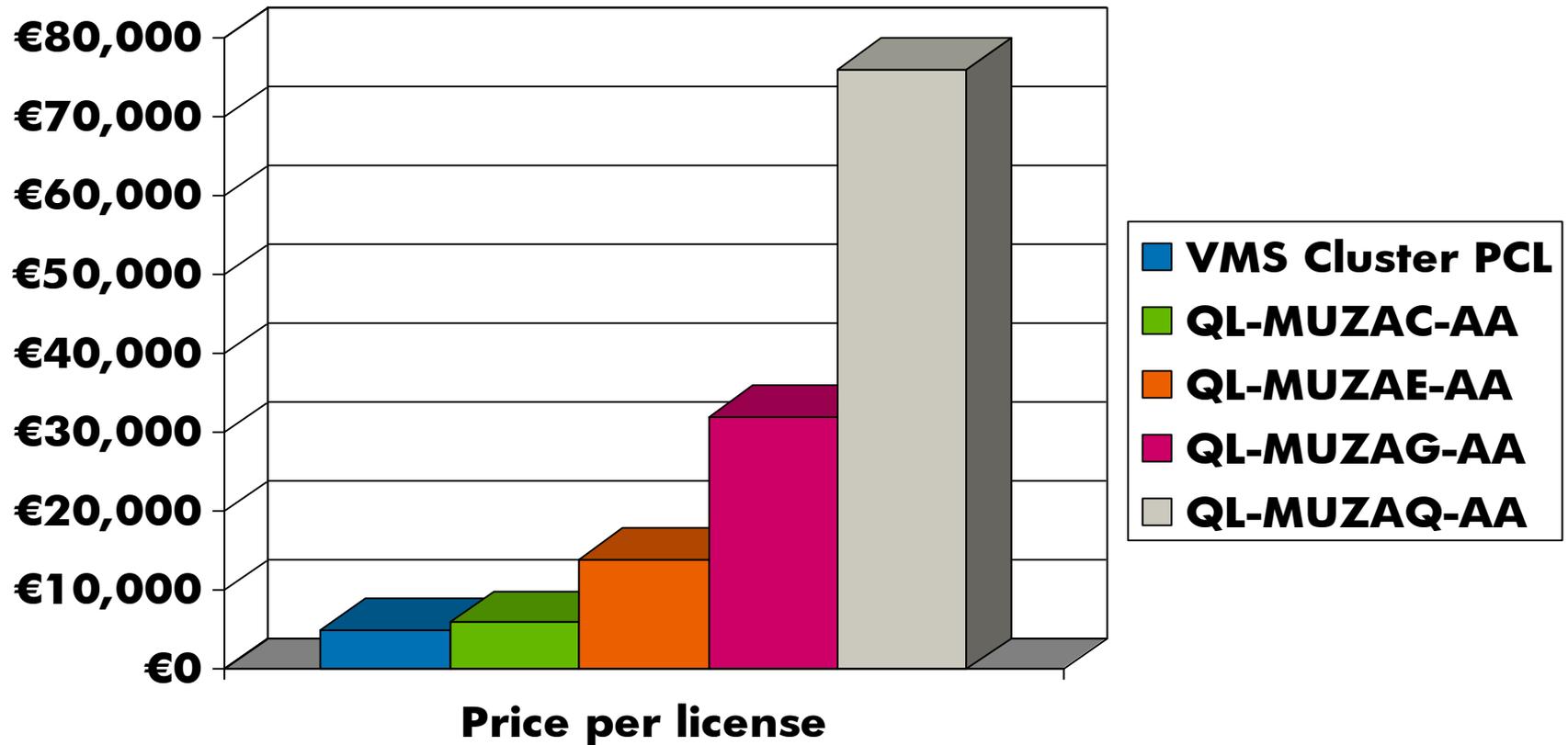
FOE Cost Example 1



FOE Cost Example 2



Cluster Cost Example



Virtualization Licensing Program for Virtual Server Environments



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Virtualization and Utility Pricing

- **iCAP – Instant Capacity** *

- Upon installation of OpenVMS 8.3 the operating system automatically detects that the system is an iCAP system and installs the iCAP software from the 8.3 disk
- When additional processing capacity is required, inactive iCAP CPUs, cell boards or memory modules can be turned on without taking down the system
- These components are now permanently activated with all the HP and 3rd Party software licensing implications that this implies.

*only qualified on Cell based Integrity Servers

Virtualization and Utility Pricing

- **TiCAP ***

- iCAP CPUs (only) may be temporarily activated for as little as 30 minutes with a TiCAP license that provides 30 CPU-days of activation that may be spread across the full complement of inactive CPUs if required
- The TiCAP license also grants the rights to the relevant Operating Environment and the hardware maintenance for each activated CPU

*only qualified on Cell based Integrity Servers

HP Partitioning Continuum

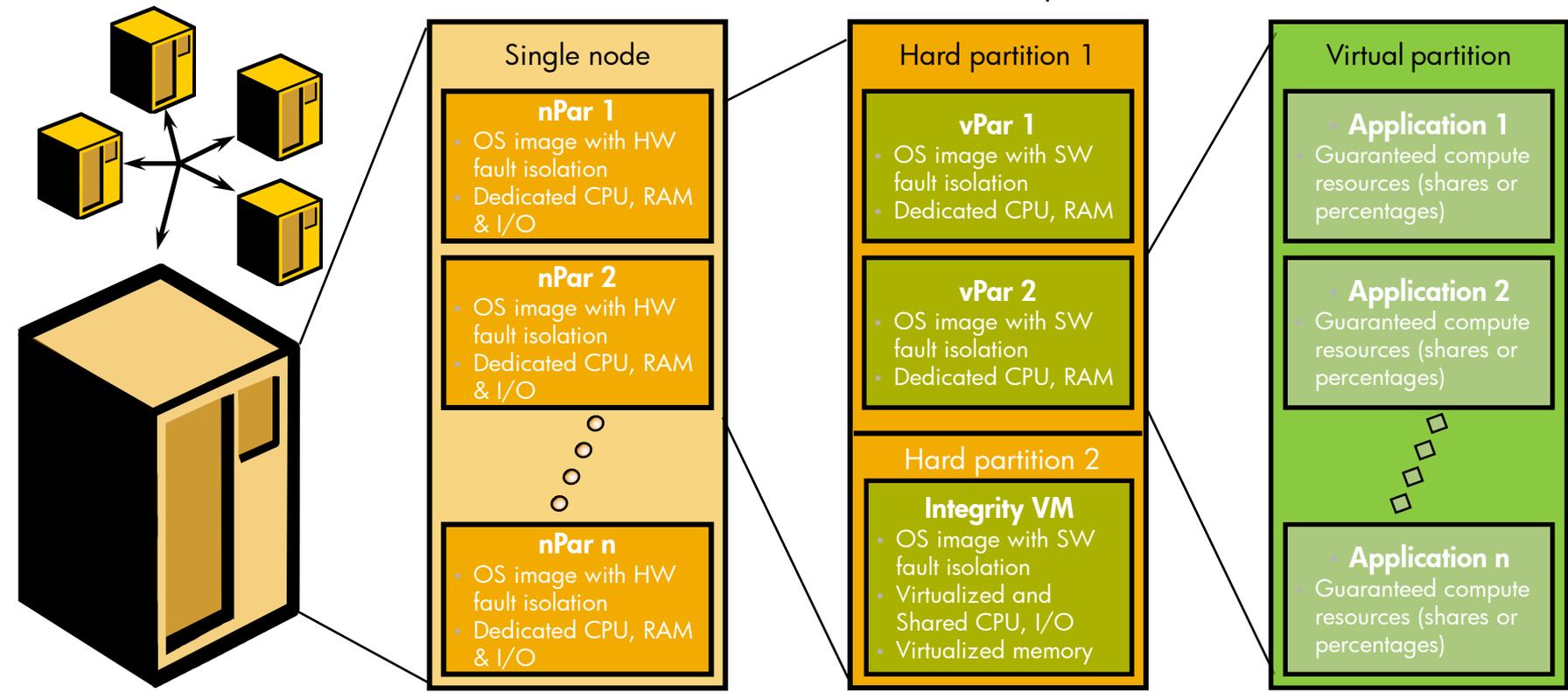
Element Virtualization

Single Physical node
Single OS image per node within a cluster

nPartitions
Hard partitions within a node

Virtual Partitions & HP Integrity Virtual Machines
Within a hard partition

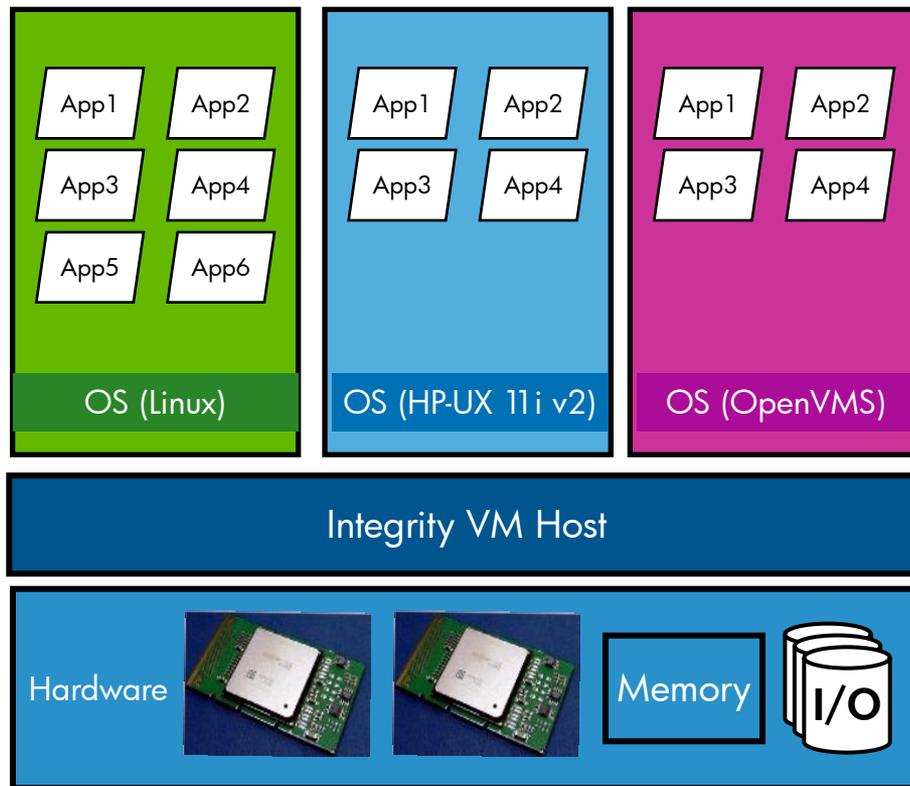
Secure Resource Partitions
Partitions within a single OS image



Isolation

Background

HP Integrity Virtual Machines



- HP Integrity VM
 - Sub CPU virtual machines with shared I/O
 - Supports all HP Integrity servers
 - Designed for multi-OS
- Important for licensing
 - Multiple virtual machines (and virtual CPUs) may share a physical CPU
 - There can be more virtual CPUs in a server than there are physical ones

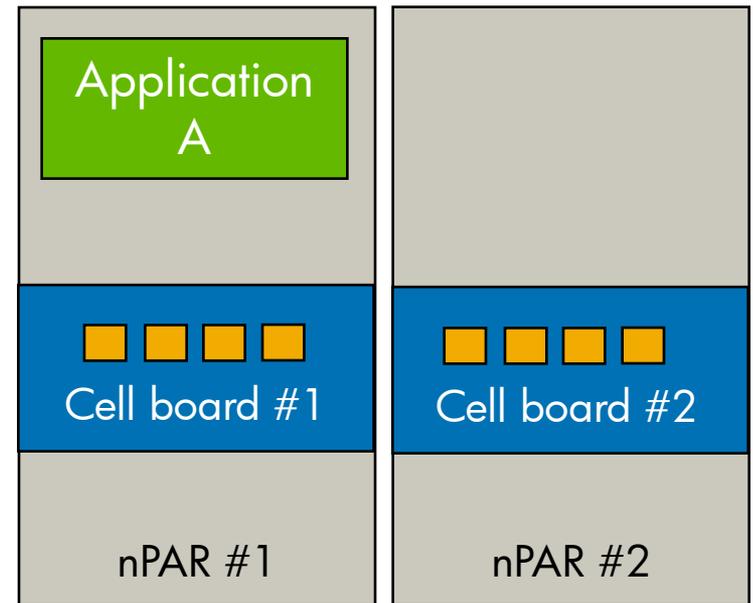
Q4 2005

How does virtualization impact software licensing?

Let's look at some examples

Software Licensing in HP nPars

- How many Per Core Licenses for Application A should be required?
 - 4?
 - 8?
 - Other?
- For OpenVMS software, we have always asked for 4 PCL.



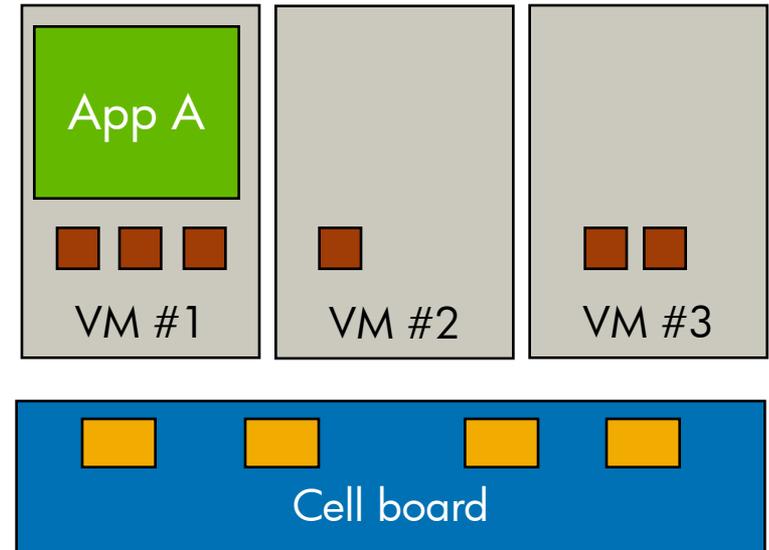
The maximum physical core capacity Application A can use in this example is 4 cores.

■ Physical core

Licensing with Integrity Virtual Machines

More examples

- How many Per Core Licenses should be required for Application A?
 - 3?
 - 4?
 - Other?
- With Virtualization Licensing, HP will ask for 3 PCL.



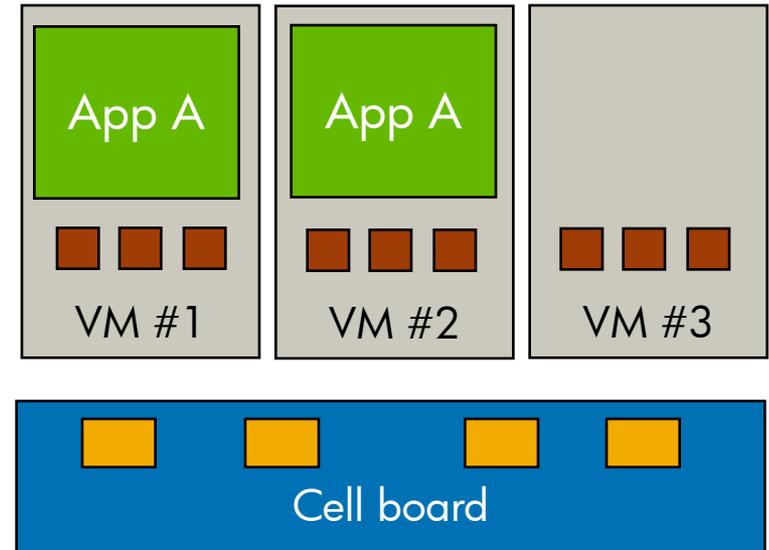
The maximum physical core capacity Application A can use in this example is 3 cores.

- Physical core
- Virtual CPU

Licensing with Integrity Virtual Machines

More examples

- How many Per Core Licenses should be required for Application A?
 - 6?
 - 4?
 - Other?
- With Virtualization Licensing, HP will ask for 4 PCL.
 - HP will not charge for more than the number of physical cores in the box even though the customer has allocated 6 Virtual CPUs.

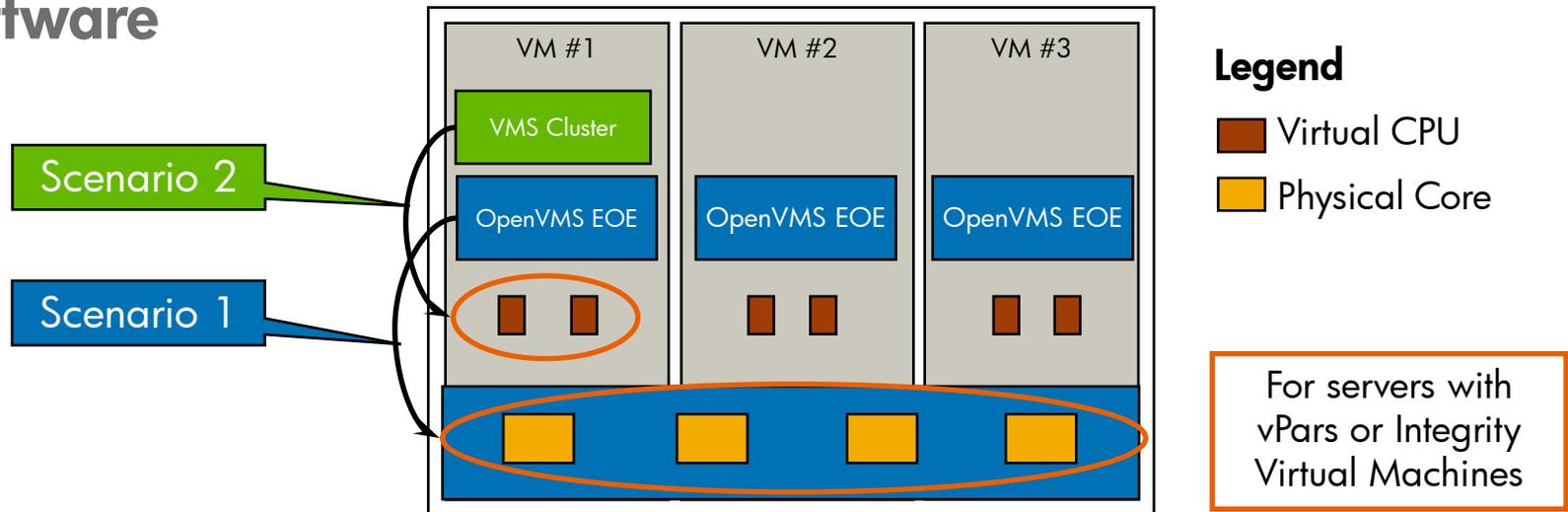


The maximum physical core capacity Application A can use in this example is 4 cores – the maximum cores in the box.

- Physical core
- Virtual CPU

Virtualization Licensing Program

Reduce costs with new flexible licensing for HP-UX 11i software



Scenario 1: As many as you want

- Run as many instances of OpenVMS Enterprise Operating Environment as you want.
- Never pay more than the physical cores in the server.
- In this scenario, pay for 4 Enterprise OE licenses.

Scenario 2: As few as you want

- Run VMS Cluster on only a portion of the server.
- Pay only for the licenses you need.
- In this scenario, pay for 2 VMS Cluster licenses.

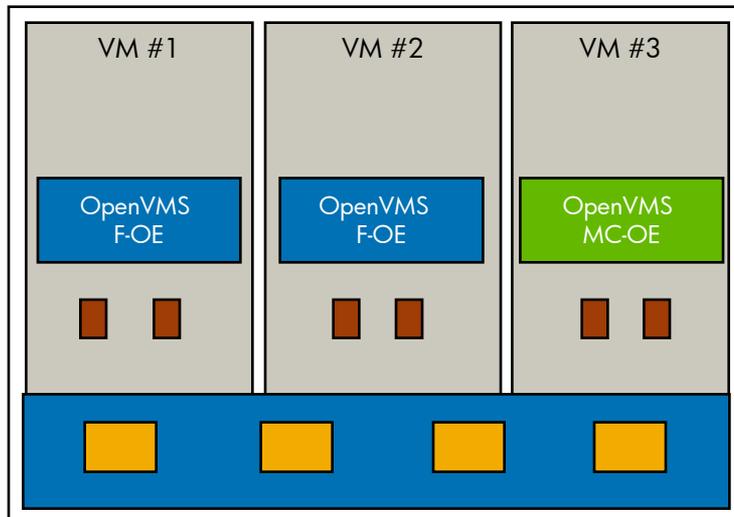
What is the best way to license? Physical or virtual

- Most customers will still license based upon the cores in the nPartition or server. This is generally the best method for licensing if the customer plans to:
 - Run the same software across all virtual machines in the nPartition or server - in this case, customers may run as many instances of the software in the Integrity VMs or vPars as desired without requiring additional licenses
 - Change the configuration often and want to make sure they are in compliance
 - Don't know how they want to configure the virtual machines at the time they place the order
- Licensing software for just the virtual CPUs in the Integrity VM or cores in the vPar can reduce costs in cases where:
 - Customer will run a software product on only a small portion of the nPartition or server - examples:
 - Database & applications
 - Production & development

How many licenses do I need?

License as few instances as you need to reduce costs

Server with 4 cores in 3 Integrity VMs



■ Physical Core ■ Virtual CPU

	Virtualization Licensing		Before	
	Quantity	List	Quantity	List
F-OE for VM #1	2	\$4740	0	\$0
F-OE for VM #2	0	\$0	0	\$0
MC-OE for VM #3	2	\$19,480	4	\$38,960
Total		\$24,220		\$38,960

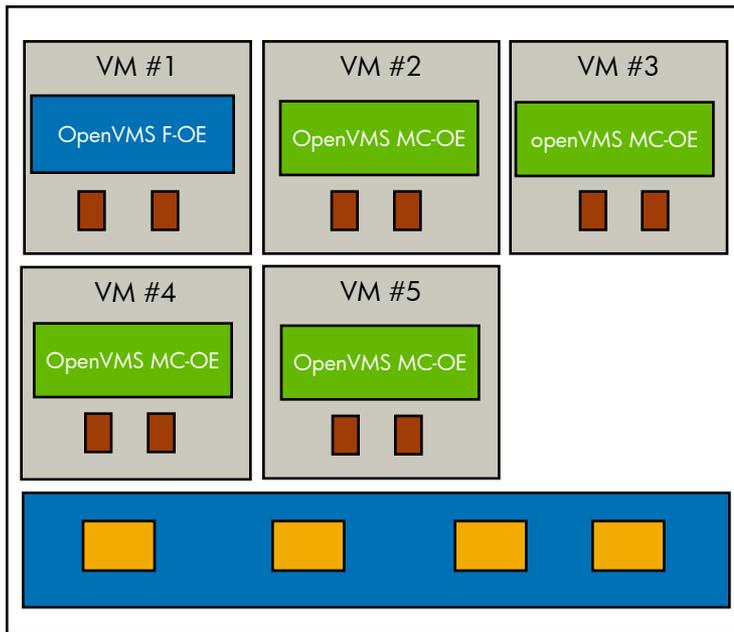
- In this example, customers saves \$14,740 list
- 38% in OE licensing

2 licenses of OpenVMS Mission Critical OE are required and since there are only 4 physical processors in the system, only 2 licenses of OpenVMS Foundation OE are required to license.

How many licenses do I need?

Run as many instances as you want with limited costs

Server with 4 cores with 5 Integrity VMs



■ Physical Core ■ Virtual CPU

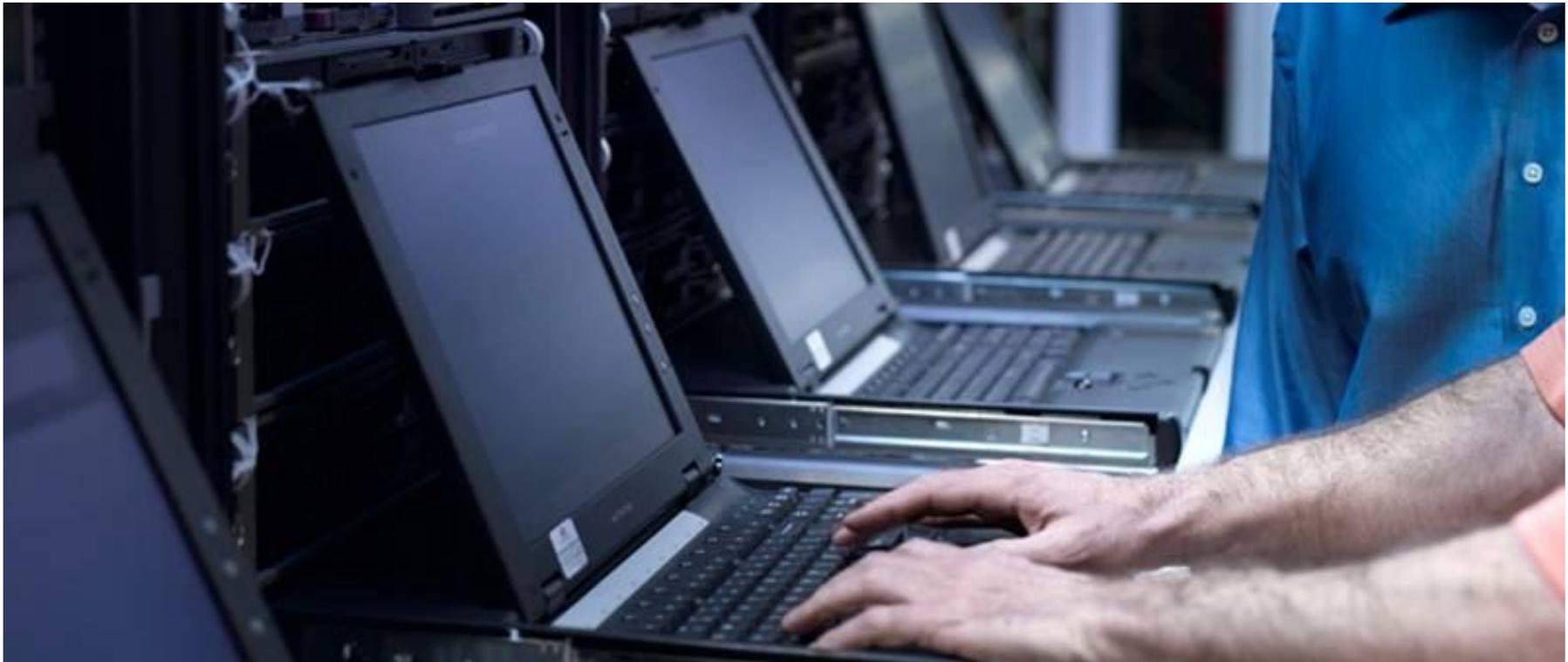
	Virtualization Licensing		Before	
	Quantity	List	Quantity	List
F-OE for VM #1	0	\$0	0	\$0
MC-OE for VM #2 - #5	4	\$38,960	4	\$38,960
Total		\$38,960		\$38,960

- In this example, the customer will simply license as they do today, by active core. Licenses and costs are capped by the number of cores in the server. HP will not require more licenses than there are cores in the server.
- Many customers will likely license this way because it matches common usage models.

In this example, it is advantageous for the customer to purchase at the physical core level. The customer may purchase the MC-OE license for the 4 cores in the server and run as many instances of OpenVMS MC-OE as they need on these 4 cores. Since Foundation OE is a subset of MC-OE, they may run it in these Virtual Machines as needed.

For more information....

- www.hp.com
 - www.hp.com/go/virtualizationlicensing



HP Platform support for Virtualization Licensing

Hardware

- All hardware platforms that are supported by Integrity VM and vPars including:
 - Integrity VMs: All HP Integrity servers
 - vPars: All cell-based id-range and high end HP Integrity and HP9000 servers
- HP ProLiant are not supported under Virtualization Licensing.

Software

- All HP software for HP Integrity and HP9000 servers that is currently licensed using Per Core Licensing.
- Primary products include HP-UX 11i Foundation, Enterprise, and Mission Critical Operating Environments, and HP-UX 11i Application software such as: HP Serviceguard, HP-UX Workload Manager, HP Process Resource Manager, HP OnlineJFS, HP Mirrordisk, HP ContinentalClusters, and more.
- Virtualization Licensing is not applicable for software products that are licensed standalone on a per-server or per-user basis such as Auto Port Aggregation and GlancePlus. (GlancePlus is eligible for this program when it is part of the Operating Environment.) Other OpenView products are not included in Virtualization Licensing at this time.

Resource information



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Resource Information

- **Policies**

- **Cross Platform Software License Trade-in and Transfer to Integrity or HP 9000 servers**
- **Within Hardware Platform Software License Trade-in and Transfer for Integrity or HP 9000 servers**
- **Proof of a Software License**

- **White Papers**

- **HP-UX HP 9000 to HP-UX Integrity server (cross platform trade-in)**
- **MPE/iX e3000 to HP-UX Integrity server and HP 9000 (cross platform trade-in)**
- **Tru64 UNIX Alpha to HP-UX Integrity server and HP 9000 (cross platform trade-in)**
- **OpenVMS VAX/Alpha to OpenVMS Integrity (cross Platform trade-in)**
- **HP-UX HP 9000 to HP-UX HP 9000 server (within platform trade-in)**

- **Product Trade-in Maps and Tools**

- **Product to Operating Environment Software License Map**
- **Software Layered Product Equivalency Map**

- **Software License Trade-in Application/Checklist**

- **Must be completed and sent in with all orders or quotes that include license trade-ins**

Where to Find Resource Information

- **Software Licensing website (external)**
 - <http://licensing.hp.com/swl/view.slm?page=index>
- **Alpha Retain Trust website**
 - For customers: http://www.hp.com/products1/evolution/alpha_retaintrust/
- **Software License Trade-in Application / Checklist**



Microsoft Word
Document

Thank you

HP Renew <http://www.hp.com/products/hprenew>

Inventory Today: <http://www.hp.com/products/hp-inventory-today>

B2B auction tool: <http://seven19.fairmarket.co.uk>



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